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WORKS FOR
YOU!**

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WHITEHORSE LAKE

**MULTIPLE USE
MANAGEMENT**

of your

KAIBAB
National
Forest

provides

- RECREATION
- WATER
- WOOD
- FORAGE
- WILDLIFE

for

maximum overall

public benefit!



NATIONAL FORESTS IN ARIZONA



This is a brief summary of the major accomplishments on the Kaibab National Forest. The objective of the U.S. Forest Service is to manage the natural resources so as to provide maximum benefits to the public now, and in the future. On the following pages, we have shown just how the Kaibab National Forest is working for *you* — its owner, along with other American citizens.

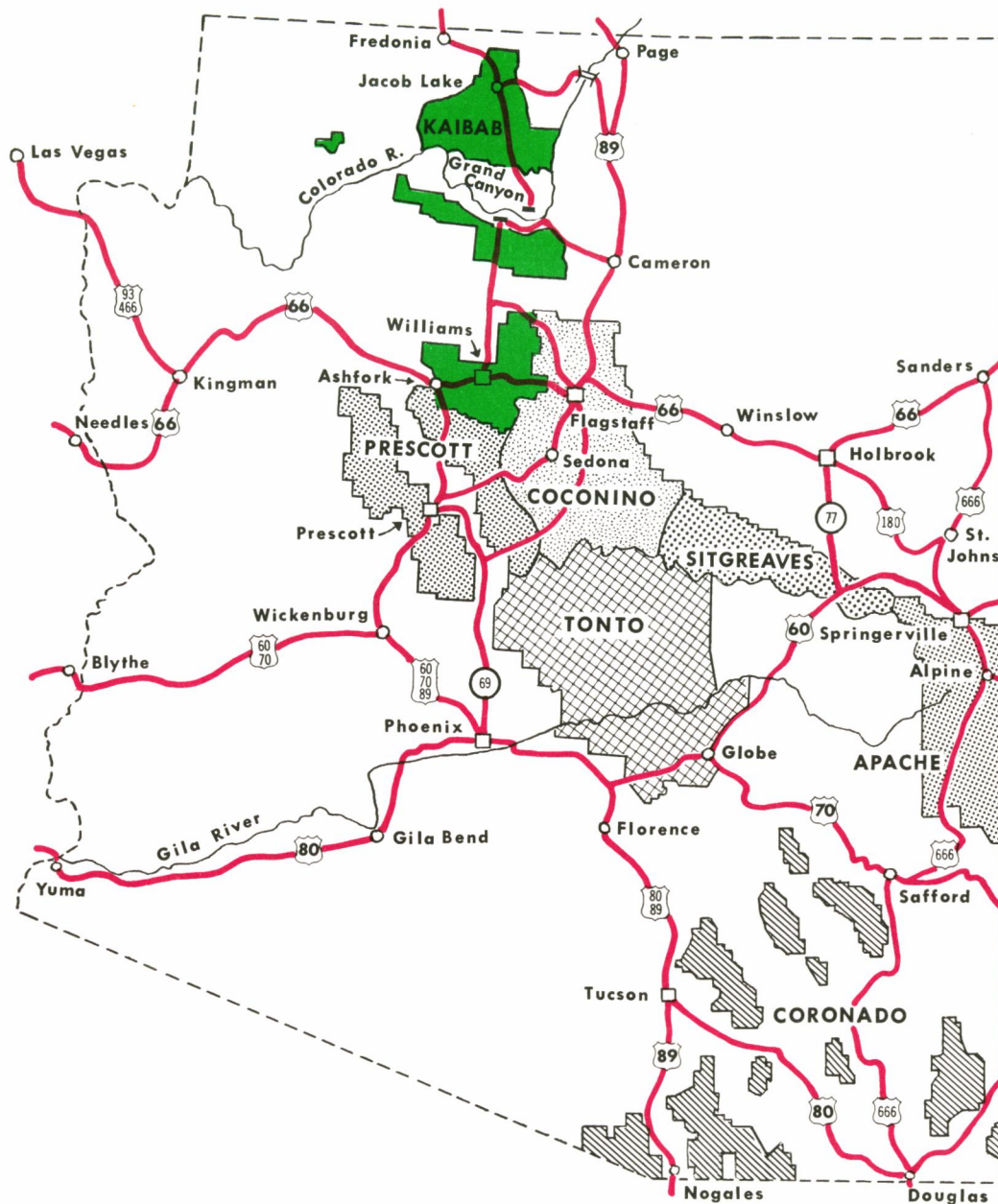
The Forest Service is vitally concerned with promoting sound development and growth of communities dependent upon National Forest resources. A new development this year of major importance to the economy of Northern Arizona was the beginning of the pulpwood operation on the Kaibab. The allowable sawlog harvest on the Williams Working Circle was also increased this year by 4.8 million feet. This will make a more economical operation for the local timber operator.

Outdoor recreation is the fastest growing National Forest use. However, demands for all other products and services are also growing. To meet these demands, the Kaibab National Forest has expanded its organization so that more intensive management of the water, recreation, range, timber, and wildlife resources can be obtained in order to more fully meet the needs of our country's growing population.

I hope you will visit the Kaibab National Forest often, and if you have any suggestions that will enable us to serve you better, I would welcome them.

J. M. Hodgkin

Forest Supervisor



OUTDOOR RECREATION

Each year, more and more people are coming to the Kaibab National Forest to picnic, camp, hike, ride, fish, hunt, or to just enjoy its outstanding scenery. In 1962, there were 299,000 recreation visits compared with 84,000 visits in 1952. By 1972, total visits are expected to reach 460,000, but this estimate, on basis of our past predictions, may be far too conservative.

The Kaibab National Forest now has six campgrounds with 202 table and fireplace units. To take care of increasing demand, we will need seven new campgrounds with 310 family units by 1972. The price tag will be about \$496,000. Of course, this cost includes not only tables and fireplaces, but also garbage disposal and sanitary facilities, water supply, barriers, signing and other site development costs.

Sight seeing is an important use of the Kaibab since nearly one-fourth of the visitors come to the National Forest for this purpose. There are at least ten observation points with outstanding views into Sycamore Canyon Primitive Area, Grand Canyon, and Marble Canyon that will be built within the next ten years.

The Williams Ski Area is being developed by private capital on the Kaibab National Forest under Forest Service special-use permit.

Sycamore Canyon Primitive Area from South Kaibab Rim.

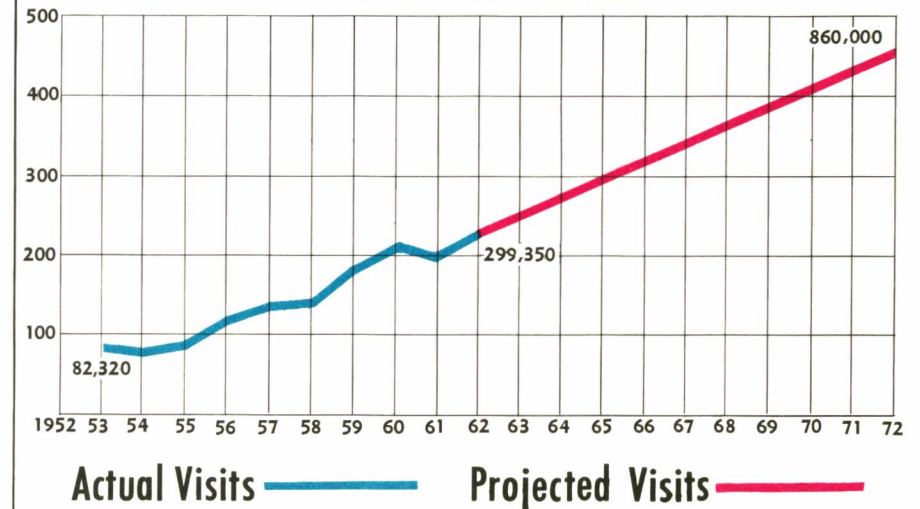


Boating at Whitehorse Lake.



Setting barrier rock for traffic control at Kaibab Lake Campground.

Recreation Visits



WILDLIFE

The Forest Service is responsible for maintaining adequate wildlife habitat on all National Forest lands. The Kaibab, in close cooperation with the Arizona Game & Fish Department, has carried on a habitat improvement program of real significance. During the past five years, 4,683 acres of heavy pinon-juniper have been cleared for permanent wildlife openings. In addition, nearly 3,000 acres have been planted to deer browse and legume forage species, and thirty-five "trick tank" or "guzzler" water developments have noticeably assisted the distribution of wildlife, especially deer and turkey.

A full-time wildlife biologist has been assigned to the Kaibab National Forest to assist with the expanding wildlife program. He will work with Forest Rangers and State Game Department technicians in developing plans and studies for betterment of the wildlife resource on the Kaibab. Game food studies are now installed as part of every range analysis.

"Any deer" hunts have been the rule on the Kaibab since 1928 except for a few years when "buck only" hunts resulted in tremendous deer increases and subsequent winter food depletion. Discontinuing these "either sex" hunts would again present the Kaibab with a serious problem of maintaining winter deer forage because of increased numbers of non-harvestable deer.

The famous deer herd of the North Kaibab has overshadowed the deer herds South of the Grand Canyon for many years. Hunters are, however, finding good hunting on the South Kaibab and use there has doubled since 1957. A special Hunters' Map for the North Kaibab is now available to the public and a similar one is planned for the South Kaibab.

The Kaibab National Forest also supports populations of bear, elk, antelope, buffalo, turkey, and squirrels, which can be hunted during prescribed seasons. Cataract, Kaibab, and Whitehorse Lakes provide good trout fishing for sportsmen.



"Trick" tank or "guzzler" provides an escape ramp for small animals and birds.



Deer grazing on winter range.



Fishing is popular at Whitehorse Lake.



Buffalo may be seen in House Rock Valley — North Kaibab.



Forest Service employee marks trees for cutting.



Thinning dense ponderosa pine stand speeds up growth on remaining crop trees.



Crop trees are released by thinning.

TIMBER

Sawtimber harvest is big business on the Kaibab. The graphs on the next page for the two timber management units (called "working circles") on the Kaibab National Forest show the relationship between the sawlog allowable cut and amount actually cut over the past ten years. The term "allowable cut" means the timber volume that may be harvested annually under sustained yield management of the Forest. The decrease in the actual cut during the past few years on the North Kaibab was due to depressed lumber market conditions.

Across the Colorado Plateau pulpwood harvesting has been hailed as the first opportunity to make intensive timber management pay its way since the wood-using industries came to Northern Arizona.

The Kaibab National Forest south of the Grand Canyon has an estimated 500,000 cords currently available for pulpwood. In 1962, about 10,000 cords were cut, and future years may see as much as 30,000 cords removed annually. Pulp trees are cut under the direction of Kaibab foresters. They mark the trees for removal, selecting those for cutting which will not develop into good quality sawlog trees, allowing those that remain to grow faster and produce usable products years sooner than they would in unthinned stands. Besides speeding up the

growth rate, the opening up of thick, young timber stands improves watershed conditions by permitting more snow and rain to reach the ground. The thinning operation also allows more sunlight to reach the forest floor, and this stimulates the growth of plants which produce food for wildlife and livestock. Thus, what improves the timber resource also benefits the other resources.

Other new operations utilizing Kaibab National Forest timber include harvesting of aspen on the North Kaibab. Aspen logs supply raw materials to an excelsior plant in Cedar City, Utah. 847 cords were cut in 1962. The harvest of mature aspen induces sprouting which makes valuable deer browse.

In addition, 18,000 linear feet of ponderosa pine utility poles were cut on the Kaibab National Forest as part of the supply for Southwest Forest Industries' pole treating operation at Prescott, Arizona.

43 million feet of sawlogs were harvested on the Kaibab National Forest during 1962 by the Kaibab's two major timber purchasers, namely Haining Lumber Company of Williams, and the Kaibab Lumber Company of Fredonia, Arizona.

Temporary roads that are built to harvest the wood products mentioned above are

"put to bed" after use. This means they are drained and seeded to prevent soil erosion and to provide feed for livestock and wildlife.

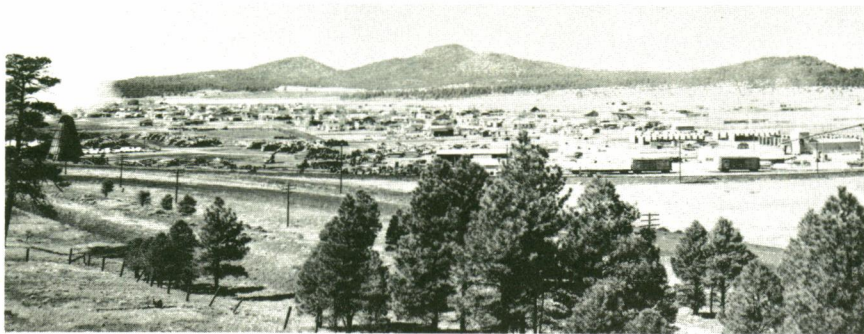
During the Fall of 1962, 4,000 pounds of ponderosa pine tree seed were collected on the North Kaibab for use in reforestation projects here on the Kaibab and other Northern Arizona National Forests.

THE JOB AHEAD

In the last ten years, nearly 60,000 acres of young stands have been thinned and pruned to improve the quality and increase the volume of future sawlog crops. However, much of this type of work remains to be done to reach the Kaibab's full timber production potential.

In 1961 and 1962, young trees, too small for pulpwood, were thinned on about 5,000 acres to initiate a new program in intensive timber management. 125,000 acres still need treating to speed timber growth.

Because of early day cutting practices and inadequate natural regeneration, more than 110,000 poorly stocked acres need "fill-in" or reinforcement planting. Another 2,500 acres denuded by fire and wind need complete reforestation.



Sawmills in the foreground are an important part of the Williams, Arizona, economy.

Big wheel was used to haul logs to railroad landings in early '20s.

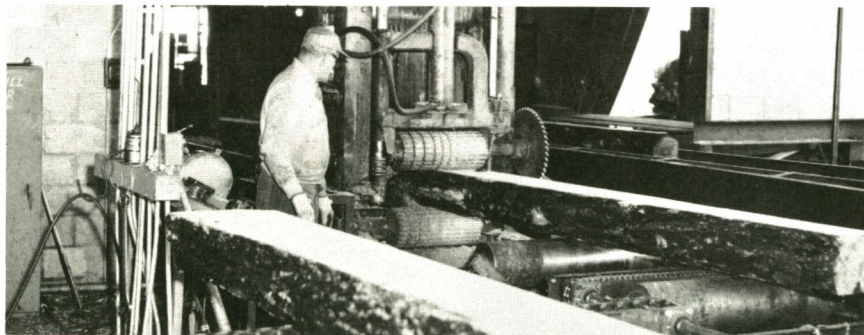


Trucks haul ponderosa pine logs to the sawmill.

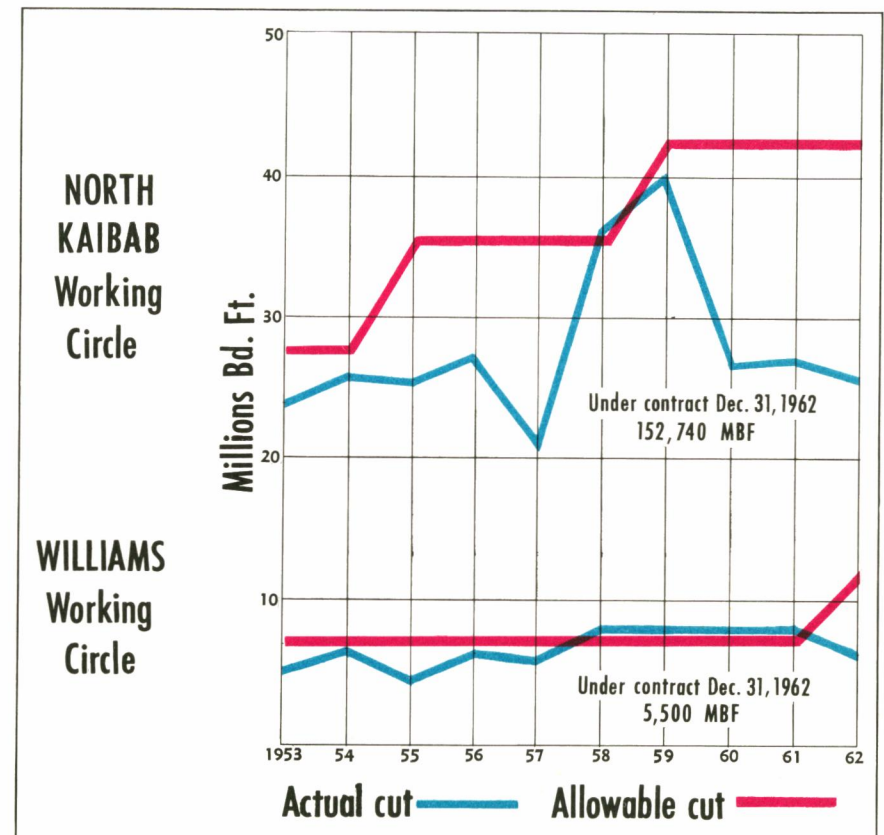
NATIONAL FOREST TIMBER AND TOWNS

- In Williams:
 - 140 Haining Lumber Company employees harvest and manufacture Kaibab National Forest timber.
 - 65 men harvest, haul and stockpile Kaibab National Forest pulpwood for Southwest Forest Industries.
- In Fredonia.
 - 300 people of the Kaibab Lumber Company cut and process Kaibab National Forest timber.
- Throughout the Forest:
 - Cutting of products such as the aspen and utility poles referred to above and Christmas trees provides significant amounts of intermittent and seasonal employment.

The transportation industry is a beneficiary of the timber harvesting program, since forest products must move to market by rail or truck.



A gang saw installed by Haining Lumber Company in Williams is ideally suited to utilizing the smaller sawlogs typical of the old cutover stands on the Williams Working Circle.



RANGE

Grazing of domestic livestock is one of the valuable multiple uses of the Kaibab National Forest. In 1962, more than 14,000 cattle and 15,000 sheep owned by 58 local ranchers grazed 50 allotments on this National Forest under paid permit. These animals converted National Forest forage to over 2,000,000 lbs. of beef and 700,000 lbs. of lamb. During the eight-year period 1954 through 1962, range technicians carefully analyzed over 1,000,000 acres of Kaibab National Forest range land. Forest officers and stockmen working together completed and initiated management plans for more efficient use of some 900,000 acres. These include a rest-rotation system of management on 13 pastures on the Corva Allotment, and a three-pasture rotation system for the Smoot Lake Allotment. This system is used to stagger the grazing on different pastures so that forage is not subjected to grazing during the growing season every year.

Accomplishments in 1962 included the construction of 30 miles of fence and 15 stock water developments to aid in obtaining better distribution and more even use of the range by grazing animals. Nearly 3,000 acres were cleared of invading juniper, pinon, sagebrush, and rabbitbrush to make room for forage plants: Wherever soil was disturbed by man's activity, these areas were planted with grass or browse to prevent erosion and to provide feed for wildlife and domestic livestock — 4,000 acres in 1962. During the next ten years, 397 miles of fences, 193 stock waters, and 150,000 acres of noxious plant control and reseeding are some of the projects needed in order to make Kaibab National Forest ranges fully productive.

An annual field day for local ranchers, forest officers, and the public is held on the Kaibab National Forest to view results of range management and improvement work. The "Quarter Circle Double X Ranch" near Williams hosted the 1962 field day.



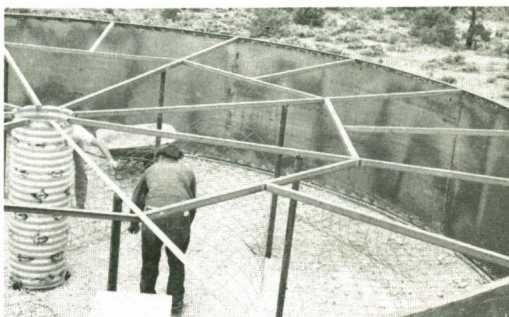
Smooth wire is used on the lower strands of some fences allowing small animals to pass through unharmed.



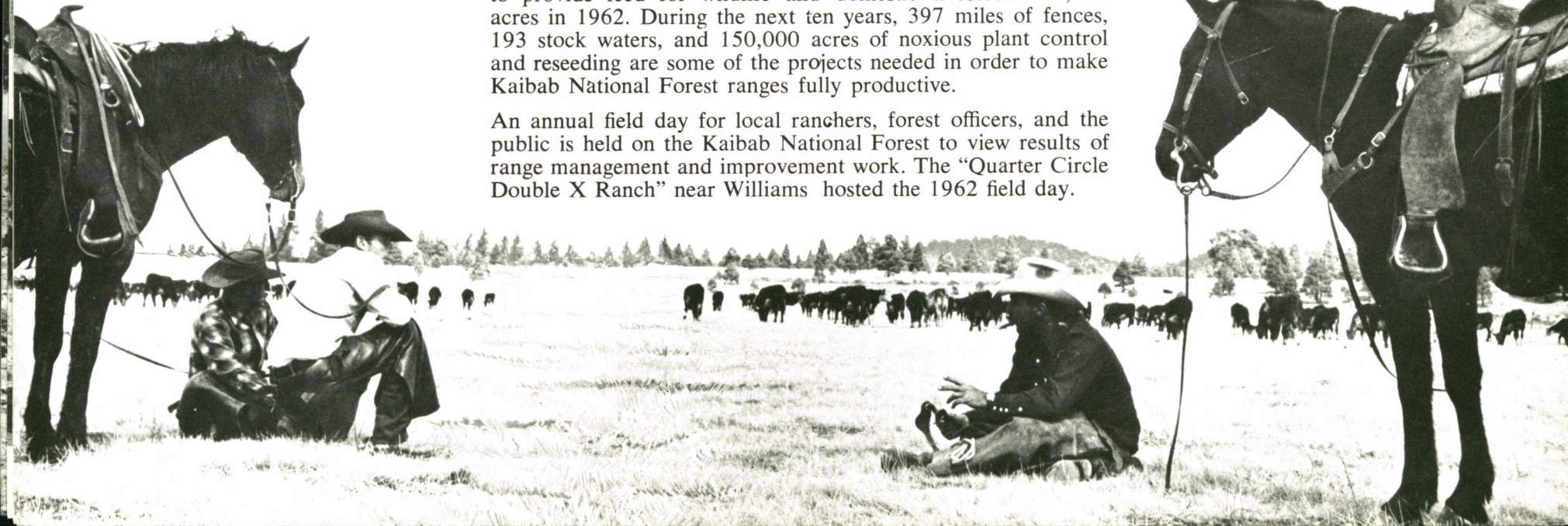
Grass is sown around new stock water developments.



Poisoning and cutting out undesirable plants permits growth of forage.



Crews constructed five new "trick tanks" for water catchment and storage last year.



WATER

The City of Williams is entirely dependent upon runoff from lands largely in National Forest status. The runoff is fed into a system of seven reservoirs (capacity 900,000,000 gallons) which are inter-connected by pipelines so that water may be transferred among them to some extent. This permits use of water most quickly from those reservoirs which hold most poorly.

Since the present system of reservoirs is inadequate to provide ample water during periods of extended drouth or mild winters, the city hopes to enlarge upon the system by adding another reservoir south of Bill Williams Mountain at the Frank Adams damsite.

Not only the growth of Williams, but also its present well-being and continued existence are dependent upon the health of the watershed. Thus, good watershed management is vital to Williams. Specific problems of management include proper silvicultural treatment to salvage usable timber and reduce the fire hazard caused by an epidemic of Douglas-fir bark beetles on Bill Williams Mountain slopes. Timber sale preparation is now underway for logging planned to start in 1963.

WATERSHED RESTORATION

Pilot watershed restoration projects began on the Kaibab National Forest in 1957. In the past 5 years about 600 acres have undergone rehabilitation.

The major watershed protection accomplishment during recent years was the reseedling of the Saddle Fire area in 1960. This job began before the crews had finished mopping up the 9,000-acre fire. As a result, soil movement was greatly retarded (and in many places prevented entirely) by the mantle of grass, clover, and other plants. Now the scars are healing

and game and livestock find abundant forage as a result of the project aimed at preventing soil loss.

The watershed projects have been diverse in nature and covered areas on both the North and South Kaibab. Major structures such as spreader dikes and controlled-level detention dams were constructed. Roads were relocated out of drainage bottoms. Gully banks were sloped and seeded. An area around the Grand Canyon airport was seeded and approximately 6 miles of erosion reducing contour ditches were built. More than 60 acres of land were treated directly in these projects and many times that amount were protected within the watershed boundaries.

In the 10 years ahead, urgent watershed restoration needs include:

- 25,000 acres of sheet erosion control
- 160 miles of road and trail erosion control
- 60 acres of water spreading treatment
- 25 miles of gully stabilization
- 5 flood prevention projects



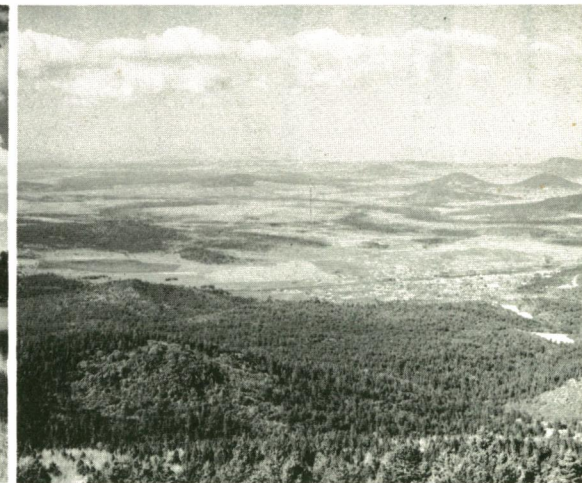
Reservoirs also serve the recreationist.



The east slope of Bill Williams Mountain is a main source of Williams' water supply.



Kaibab Lake is the newest reservoir north-east of Williams.



View of Bill Williams watershed showing 3 reservoirs in right center.

FIRE

Prevention of man-caused forest fires is a top priority job in which all Kaibab National Forest personnel, users, and visitors share responsibility. Equally important is speedy detection and prompt control of all fires.

Acreage burned on the Kaibab National Forest has been kept at a low level in past years, but the disastrous 9,000-acre Saddle Mountain fire in 1960 proved that dangerous, explosive conditions can develop on the Forest. Although there were 258 fires in 1962, prompt detection by cooperators and fire lookouts and speedy control enabled us to keep the burned area limited to 223 acres. Carelessness or indifference upon the part of 34 citizens was responsible for most of the damage incurred.

To beef-up detection facilities, construction of a new lookout is planned on Volunteer Mountain in cooperation with Navajo Ordnance Depot, Bellemont, Arizona in the spring of 1963. Another new lookout will soon be erected on Kendrick Peak. Aerial patrols and intensified law enforcement are also part of the Forest Service program to prevent fires and "keep 'em small." Tanker planes play a major role today in helping to keep the fires small. A slurry (mixture of bentonite-clay and water) is dropped as a retardant to slow the spread and cool the fire, giving ground crews a chance to construct fire lines.

The 1960 Saddle Mountain Fire was seeded to grass and browse, and 150 acres in the cutover pine area were direct-seeded with ponderosa pine seed in July of 1962. Approximately 800 acres of operable area in the mixed conifer type were seeded during the winter of 1961-62 by aircraft with white fir, Engelmann spruce, and Douglas-fir seed. All of the tree seed was collected from the Kaibab National Forest north of the Grand Canyon in the fall of 1961. The fire-killed timber from the operable area was salvaged and amounted to a volume of 7,526,000 board feet.

MINERALS

The Kaibab National Forest has completed a survey to determine the extent of the mining activity on the lands under its jurisdiction. This survey also determined the right of the Forest Service to use the surface resources on almost all of the mining claims within the National Forest boundary in accordance with the Multiple Use Mining Law of 1955. This permits the Kaibab National Forest to sell the timber off of unpatented mining claims.

The Kaibab mineral examiner has been making an intensive study of the flagstone quarries northwest of Williams. Each quarry is being investigated. The owners or operators of the quarries are cooperating in these examinations, and those that do not qualify under the Mining Laws will have their claims covered by a National Forest Special Use Permit. The Kaibab and the operators are working towards improving quarry operations and developing a stable industry.

The Kaibab mineral examiners have made an extensive survey of the mineral claims for pumice within the Bill Williams Watershed. The area involved provides much of the water for the City of Williams. Any development on these mining claims will have an effect on the watershed, and the Forest is interested in determining the impact of these claims on water production and erosion.



Flagstone is quarried under Special Use Permit in the Ashfork area.

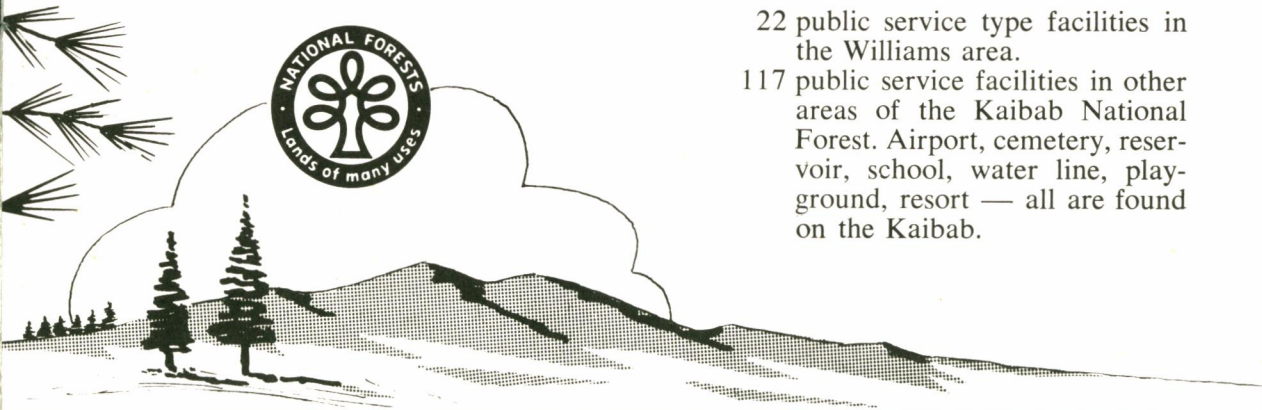
LANDOWNERSHIP ADJUSTMENT

The Kaibab National Forest is in the process of eliminating the last of the alternate railroad sections which once blanketed much of the Forest. The railroads obtained these lands from the government in the 1800's while "pushing" the rails west.

Since then, the railroad land has either been returned to the government or, as in this final township, sold to private individuals. Through negotiation with these private landowners, it has been possible to exchange other National Forest lands for the alternate sections, thereby improving the management job on the whole area. Communities such as Williams are enabled also to add "growing room" by making exchanges for National Forest land surrounding the city.

Other isolated tracts of wild land within the Forest and in private ownership are also being exchanged for National Forest land near expanding communities.

During the years 1960 thru 1962, 3,700 acres of National Forest land have been or are in the process of being exchanged for private land of equal value within the Kaibab.



SPECIAL USES

The many land use permits on the Kaibab reflect the wide variety of demands being made upon your National Forest lands. They encompass everything from airports to water lines. Gas lines and power lines which cross the Kaibab serve the population centers of the Valley of the Sun and the West Coast.

There are two fine resorts on the North Kaibab which make it possible for vacationers and hunters to spend their time here in complete comfort.

Each year the demand for special land uses increases and it is expected to continue in the future. Thus, National Forest land becomes more vital to our people with each passing day.

Vital Statistics

At the end of 1962, the Kaibab National Forest had existing permits for:

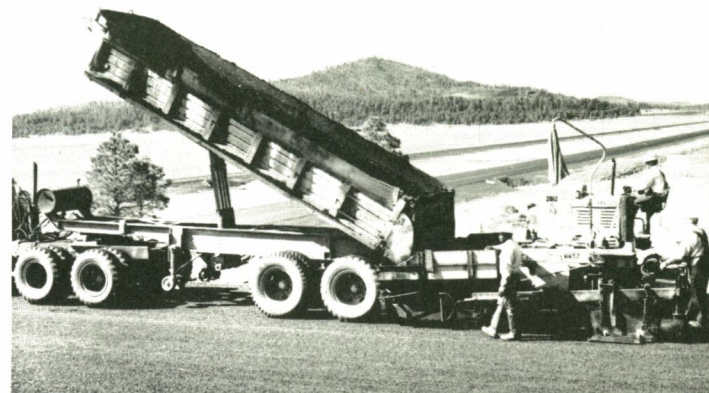
- 84 miles of roads and highways, 106 miles of telephone lines,
- 19 miles of railroad, 82 miles of pipelines, and 101 miles of power lines.

Essential community service sites provided by the Kaibab National Forest include:

- 22 public service type facilities in the Williams area.
- 117 public service facilities in other areas of the Kaibab National Forest. Airport, cemetery, reservoir, school, water line, playground, resort — all are found on the Kaibab.



Reseeded grass on pipeline right-of-way shows excellent growth.



Lands needed for interstate highways are another impact on the Kaibab National Forest.



Electronic installations under Special Use Permit on Bill Williams Mountain serve large areas of northern Arizona.



National Forest logs head for the mill.

ROADS AND TRAILS

An adequate road system is the key to good Multiple Use Management. Without a well-planned network of high standard roads, harvesting timber is difficult and expensive, fire protection and control are impeded, and recreational use and deer harvest are limited. Improperly designed roads, or roads that are not designed at all, are a source of soil erosion and take many acres of needed land out of production.

On the Kaibab National Forest there are more than 1,900 miles of roads and approximately 800 road signs and 400 route markers.

In 1962, the Forest Service constructed 8 miles of new road and upgraded 7 miles of existing road. Timber purchasers constructed 9 miles of new permanent roads under terms of timber sales contracts. (The estimated cost of the road construction is deducted from what the timber purchaser pays the Forest Service for the timber.)

Two miles of the Thunder River Trail on the North Kaibab were constructed to acceptable Forest Service standards, and several miles of existing trails were cleared and otherwise maintained for hikers.

In the next decade, needs include:

- 214 miles of multiple-purpose roads
- 86 miles of timber access roads
- 85 miles of new trails
- 76 miles of recreation roads
- 75 miles of timber-purchaser built roads



The Kaibab National Forest recreation folder containing general information and a map showing the campgrounds and main routes of travel is available free of charge at the following places: The Forest Supervisor's and the Chalender-Williams Ranger District offices in Williams, Arizona; the Tusayan Ranger Station, South of the Grand Canyon; and the Big Springs-Jacob Lake Ranger District office in Fredonia, Arizona. Also, the colorful Kaibab National Forest decals, and automobile bumper strips are available at these locations.

